

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 May 2005 (19.05.2005)

PCT

(10) International Publication Number
WO 2005/045038 A3

(51) International Patent Classification:

C12N 15/11 (2006.01) C07H 21/04 (2006.01)
C12P 19/34 (2006.01) A01N 43/04 (2006.01)
C07H 21/02 (2006.01) A61K 31/713 (2006.01)

(21) International Application Number:

PCT/US2004/027231

(22) International Filing Date: 20 August 2004 (20.08.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10/693,059	23 October 2003 (23.10.2003)	US
10/720,448	24 November 2003 (24.11.2003)	US
10/727,780	3 December 2003 (03.12.2003)	US
10/757,803	14 January 2004 (14.01.2004)	US
60/543,480	10 February 2004 (10.02.2004)	US
10/780,447	13 February 2004 (13.02.2004)	US
10/826,966	16 April 2004 (16.04.2004)	US
PCT/US04/13456	30 April 2004 (30.04.2004)	US
60/570,086	11 May 2004 (11.05.2004)	US
PCT/US04/16390	24 May 2004 (24.05.2004)	US

(71) Applicant (for all designated States except US): **SIRNA THERAPEUTICS, INC.** [US/US]; 2950 Wilderness Place, Boulder, CO 80301 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **RICHARDS, Ivan** [US/US]; 3533 East D. Avenue, Kalamazoo, MI 49009 (US). **POLISKY, Barry** [US/US]; 449 Mountain View Road, Boulder, CO 80302 (US). **MCSWIGGEN, James** [US/US]; 4866 Franklin Drive, Boulder, CO 80301 (US).

(74) Agent: **TERPSTRA, Anita, J.**; McDonnell Boehnen Hulbert & Berghoff LLP, 300 South Wacker Drive, Suite 3100, Chicago, IL 60606 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KR, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
2 March 2006

(15) Information about Correction:

Previous Correction:

see PCT Gazette No. 28/2005 of 14 July 2005, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RNA INTERFERENCE MEDIATED INHIBITION OF GPRA AND AAA1 GENE EXPRESSION USING SHORT NUCLEIC ACID (siNA)

(57) Abstract: This invention relates to compounds, compositions, and methods useful for modulating G protein-coupled receptor for asthma susceptibility (GPRA) and asthma-associated alternatively spliced gene 1 (AAA1) gene expression using short interfering nucleic acid (siNA) molecules. This invention also relates to compounds, compositions, and methods useful for modulating the expression and activity of other genes involved in pathways of GPRA and/or AAA1 gene expression and/or activity by RNA interference (RNAi) using small nucleic acid molecules. In particular, the instant invention features small nucleic acid molecules, such as short interfering nucleic acid (siNA), short interfering RNA (siRNA), double-stranded RNA (dsRNA), micro-RNA (miRNA), and short hairpin RNA (shRNA) molecules and methods used to modulate the expression of GPRA and/or AAA1 genes.

WO 2005/045038 A3